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August 24, 2011

Mr. Ravi Sanga  
Project Manager- Harbor Island Superfund Site Operable Unit-1  
United States Environmental Protection Agency Region 10  
Via email: sanga.ravi@epa.gov

**Re: Asphalt Cap Testing Plan for Harley Marine Worldwide Headquarters  
(Duwamish Properties) at 910 SW Spokane Street Seattle, Washington**

Dear Mr. Sanga:

This memo provides the cap testing plan for the new asphalt cap areas that are being installed as part of the site redevelopment activities for the Harley Marine Worldwide Headquarters at 910 SW Spokane Street (hereafter referred to as the property). The property is located on Harbor Island Superfund Site within Operable Unit 1 (OU-1) in Seattle, Washington. As part of the redevelopment activities, portions of the existing cap, which was previously installed to meet the remediation goals for OU-1, were removed for the installation of new infrastructure and buildings and therefore portions of the cap must be replaced in order to comply with the Record of Decision for OU-1 (EPA 1993). Cap testing will be conducted to verify that the new cap areas meet the US Environmental Protection Agency's (EPA's) requirements in the Record of Decision for OU-1. The ROD, p.31, paragraph 2 under "Containment Component", states the following requirements for areas where soil exceeded the cleanup goals as identified in the ROD:

"At a minimum, a 3-inch-thick asphalt cap with a minimum permeability of  $10^{-5}$  cm/sec would be required."

The new asphalt cap will be installed in three phases as shown in Figure 1. Upon completion of the paving, cores will be collected from locations within the newly capped areas. Each core will be measured for thickness and submitted for permeability testing by ASTM D5084 to Mayes Testing Engineers. Any new capped areas that do not meet the minimum requirements stated above will be re-paved and re-tested. Additionally, a site-wide property cap inspection will be conducted on the existing cap and along the joints with the new asphalt; repairs will be made if needed. The existing cap was installed, inspected, tested, and approved by EPA in 2000 (ThermoRetec 2000 & EPA 2000).

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The locations of the cores for testing are shown on Figure 1. The number of cores was selected based on similar testing protocols applied for other private properties on Harbor Island undertaking small paving projects. Typically, two cores per contiguous paving area were taken to evaluate permeability. We are proposing that the same general approach be used by taking two core samples for each of three paving phases planned for the property development.

Upon completion of capping and testing, a cap completion report will be submitted to EPA that will include the cap testing results and site-wide property cap inspection.

Should you have any questions or comments regarding the cap testing, inspection and reporting, please contact me at (206) 890-5434.

Sincerely,



Warren Hansen, P.E.

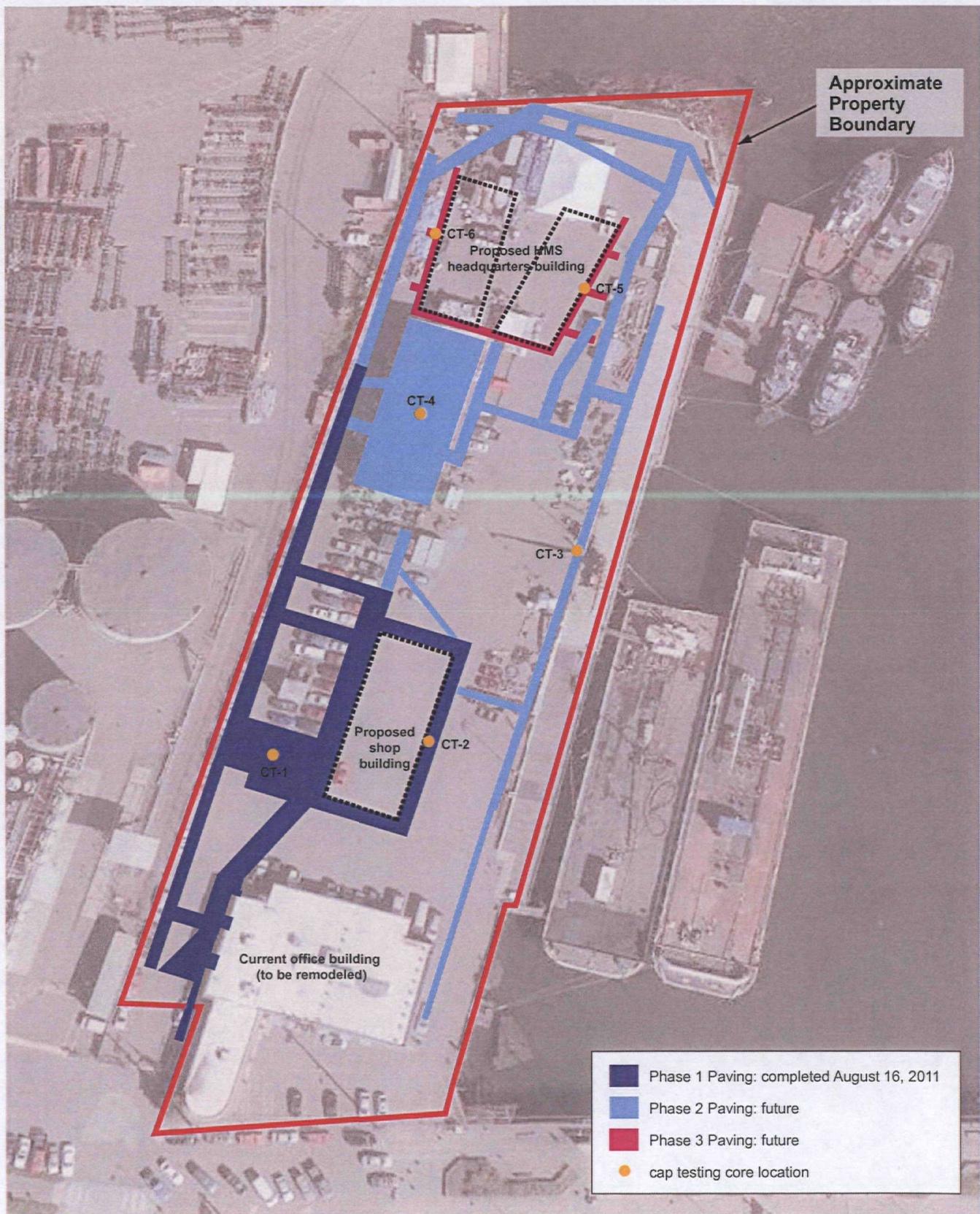
Encl.:

Figure 1-Paving Plan and Cap Testing Core Locations

cc:

Daniel Alhadeff, Duwamish Properties  
Garry Horvitz, Hart Crowser  
Mike Quinn, Mike Quinn Development  
Timothy G. Beckerle, Mayes Testing Engineers





**Figure 1. Harley Marine Paving Plan and Cap Testing Core Locations**